

ABSTRACT OF THE DISCLOSURE

In a network, packets are fragmented into head and non-head fragments. Non-head fragments are saved up front at an entry point, while a network switch forwards only the head fragment to Layer 4 – Layer 7 (L4-L7) features for processing. The switch records changes that are performed on the head fragment's fields by the L4-L7 features while they process the head fragment. At an exit point, fields of the saved non-head fragments are overwritten with information that was recorded for the head fragment. This can include updating or modifying the source and destination parameters of the non-head fragments in an intelligent manner by reusing the results of the packet processing that was performed on the head fragment. This fragmentation handling technique avoids having to redundantly process the non-head fragments in the same manner as the head fragments.

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